Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Delta States
State	Louisiana
Discipline Group	Agronomy
Practice Code/Name	346 - Residue and Tillage Management - Ridge Till
Scenario ID	1
Scenario Name	Ridge Till
Scenario Description	This practice typically involves conversion from a conventional tillage system to a ridge tillage (conservation tillage) system on 160 acres of cropland. This involves managing the amount, orientation and distribution of crop and other plant residue on the soil surface year round while limiting soil-disturbing activities used to grow and harvest crops in systems. The practice is used to reduce wind erosion, reduce sheet and rill erosion, improve soil quality, reduce energy use, increase plant available moisture. The ridge till system includes using a ridge till planter and chemical weed control, and may also include a period of chemical fallow. This residue management system is applicable to both irrigated and non-irrigated fields. This system will manage soil erosion to T and maintain a positive SCI.
Before Practice Situation	Row crops such as corn, cotton, peanuts, soybeans or grain sorghum are grown and harvested in mid-late fall. Full width tillage is performed prior to planting and weed control during crop production is typically cultivation and chemical application. Fields are plowed immediately following harvest, with several additional tillage operations applied to field prior to planting for land preparation and weed control. Residue amounts after tillage operations average less than 10%, resulting in bare soil being exposed to wind erosion and intense rainfall during the fall, winter, and early spring. Any crop residue that is present degrades and sediment/nutrient runoff from fields increases during rainfall events. Sheet and rill erosion and wind occurs with visible signs of soil erosion by spring. Soil health (soil organic matter) declines over time as a result of tillage practices, low residue, and long periods of bare soil. This system will typically have a negative Soil Conditioning Index (SCI) and a high Soil Tillage Intensity Rating (STIR).
After Practice Situation	Practice applied per the conservation practice standard 346 to meet the planned purposes. Managing crop residue on the surface year around while limiting soil disturbing activities to those which reshape ridges, place nutrients, and plant crops. All crops are seeded/planted with a ridge till planter, which minimizes soil disturbance while establishing good seed-soil contact. All residues are to be maintained on the soil surface in a uniform distribution over the entire field and not burned or removed. Crop residues provide soil surface cover throughout the year. Runoff and erosion are reduced and no rills are visible on the soil surface. Wind erosion is reduced by standing residues and surface cover. Over time, soil health is improved due to the additional crop residues, ground cover, and soil infiltration. This practice will require reducing soil erosion to T and maintain a positive SCI.
Scenario Feature Measure	Area planted
Scenario Unit	Acre
Scenario Typical Size	160

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	$0.00	$0.00
Equipment/Installation	$5,065.60	$31.66
Labor	$0.00	$0.00
Mobilization	$0.00	$0.00
Acquisition of Technical Knowledge	$0.00	$0.00
Foregone Income	$0.00	$0.00
Total	$5,065.60	$31.66

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation	1231	Ridge Till Row Cultivator	Includes equipment, power unit and labor costs.	Acre	$12.89	160	$2,062.40
Equipment/Installation	1232	Seeding Operation, Ridge Till Planter	Mechanical seeding using ridge-till equipment. Includes equipment, power unit and labor costs.	Acre	$18.77	160	$3,003.20